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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional): 600-1-081CONCIP

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on June 28, 2006

Signature: Loretta Kavanagh

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Application Number	Filed
09/925,284	August 9, 2001

First Named Inventor: Hawiger, Daniel, et al.

Art Unit	Examiner
1644	Ronald Schwadron

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- ☐ applicant/inventor.
- ☐ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- ☑ attorney or agent of record. Registration number 52,491.
- ☐ attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____

Veronica Mallon
Signature

Veronica Mallon, Ph.D.
Typed or printed name

201-487-5800
Telephone number

June 28, 2006
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

600-1-081CONCIP

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Ralph Steinman *et al.*	Examiner:	Ronald B. Schwadron
Serial No.:	09/925,284	Group Unit:	1644
Filed:	August 9, 2001		

For: ENHANCED ANTIGEN DELIVERY AND MODULATION OF THE IMMUNE RESPONSE THEREFROM

REMARKS LETTER FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW

MAIL STOP AMENDMENT
COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VIRGINIA 22313-1450

Sir:

In the subject application, an Office Action dated July 22, 2005 rejected claims 6-9 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Subsequently, an Office Action dated March 28, 2006 again rejected claims 6-9, as well as newly added claims 13-21, under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The basis for maintaining the rejection was the same as that provided in the Office Action dated July 22, 2005. As such, the claims in the present application have been twice rejected and qualify for appeal. Accordingly, the following remarks are being submitted together with a Notice of Appeal under 37 C.F.R. § 41.31 in support of a Pre-Appeal Brief Request for Review.

Applicants believe the outstanding rejections of record are improper and without basis. In support of this position, Applicants present the following legal and/or factual deficiencies in the rejections.

Pending Claims

The pending claims under consideration are drawn to methods for enhancing the development of tolerance to a preselected antigen in a mammal, comprising exposing *ex vivo* or *in vivo* dendritic cells from the mammal to a vaccine conjugate that comprises the preselected antigen covalently bound to an anti-human DEC-205 antibody, or an anti-murine DEC-205 antibody that binds to human DEC-205, under conditions that promote dendritic cell quiescence, wherein the human DEC-205 protein comprises the amino acid sequence of SEQ ID NO: 7. The amino acid sequence of SEQ ID NO:7 corresponds to a partial (C-terminal) sequence of human DEC-205.

The claims under consideration are further drawn methods for enhancing the development of tolerance to a preselected antigen in a mammal, comprising exposing *ex vivo* or *in vivo* dendritic cells from the mammal to a conjugate comprising the preselected antigen bound to an anti-mouse DEC-205 antibody that cross-reacts with human DEC-205, under conditions that promote dendritic cell quiescence, wherein the mouse DEC-205 protein comprises the amino acid sequence of SEQ ID NO: 10. The amino acid sequence of SEQ ID NO:10 corresponds to the full-length sequence of mouse DEC-205.

Rejections on Appeal

1. At pages 2-3 of the Office Action dated March 28, 2006, claims 6-9 and 13-21 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. In particular, the Examiner asserts that the specification does not provide adequate written description for the claimed invention because, while the specification discloses the sequence of murine DEC-205 protein, the cloned human DEC-205 sequence referred is not disclosed. The Examiner asserts at page 4 (lines 17-20) that because human DEC-205 is approximately 1800 amino acids in length, the recitation in the claim of a 30 or 25 amino acid sequence derived from human DEC-205 does not provide adequate written description of a molecule that is almost 1800 amino acids in length. The Examiner notes at page 4 (lines 20-23) that the claims encompass antibodies that bind any immunogenic epitope on the approximately 1775 undisclosed amino acids of DEC 205.

2. At page 5 (lines 1-2 of paragraph 3) of the Office Action dated March 28, 2006, claims 6-9 and 13-17 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. In particular, the Examiner asserts that there is no support in the specification for a human DEC-205 protein comprising an amino acid sequence as set forth in SEQ ID NO.:7. At page 5 (lines 1-6 of paragraph 4) the Examiner further asserts that although the specification teaches that SEQ ID NO.:7 is a peptide derived from DEC-205, there is no support for a DEC-205 protein comprising the peptide wherein the molecule could have any amino acids in association with the aforementioned sequences recited in the claim.

Basis for Request for Pre-Appeal Review

With respect to both of the aforementioned § 112, first paragraph, rejections relating to claims 6-9 and 13-21, the mere fact that Applicants' specification does not recite the full length human DEC-205 sequence does ***not*** alone mean that the pending claims fail to comply with the written description requirement. As discussed at pages 8 and 9 of Applicants' Amendment and Response dated December 22, 2005[1], under current law, the standard for meeting the Written Description requirement differs for every patent specification depending upon a number of factors, including the ***scientific knowledge in existence at the time of the invention, the skill in the art, the predictability of the claimed subject matter***, and correlation of a described function to a known structure. *Capon v. Eshhar*, 418 F.3d 1349, 1357 (Fed. Cir. 2005).

Applicants have fully met this standard. Specifically, ***the maturity of the science and skill in the art at the time of the present invention were such that one of ordinary skill could predictably obtain full-length proteins, such as DEC-205, based on partial sequences, as well as predictably obtain antibodies against the full-length protein (or any region of it)***, as argued at page 9 (lines 21-27), of the Amendment and Response dated December 22, 2005.

Indeed, at the filing date of the present application (*i.e.*, in 1995), technologies for isolating, characterizing and cloning proteins were highly developed, as were technologies for generating antibodies against such proteins (see arguments at pages 9-10 of the Amendment and Response dated December 22, 2005). For example, several well

[1] At page 2, paragraph 1 of the Office Action dated March 28, 2006 the Examiner refers to "Applicant's submission filed on 12/27/05." Applicants respectfully point out that an Amendment and Response was filed on December 22, 2005, not December 27, 2005.

known techniques were available for cloning proteins, including human DEC-205, based on a given partial amino acid sequence of the protein. Additionally, techniques for expressing cloned proteins and for generating antibodies against the proteins were equally well known. Once armed with a partial amino acid (*i.e.*, a peptide derived from a given protein), it was also well within the skill of the art to use these techniques to generate antibodies against such peptides and to isolate the full-length protein from its natural source.

Applicants specifically illustrated this in relation to mouse DEC-205, as discussed at page 10 (lines 11-23) of the Amendment and Response dated December 22, 2005. In particular, Applicants successfully isolated and characterize full-length mouse DEC-205 from whole murine thymus using mAb NLDC-145, an anti-mouse DEC-205 antibody. Additionally, Applicants successfully raised antibodies against N-terminal peptides from mouse DEC-205 protein. This provides ***clear evidence*** that the partial human DEC-205 sequence described in the present disclosure put Applicants in possession of the complete DEC-205 protein and antibodies against the protein.

Additionally, in the present application, Applicants teach a partial (C-terminal) sequence (SEQ ID NO.:7) of human DEC-205 protein. Applicants further teach the highly homologous full-length sequence of mouse DEC-205 protein (SEQ ID NO.:10), along with an in-depth characterization of this protein (including its ability to deliver antigen to an active antigen processing compartment of dendritic cells). Applicants also describe well-known techniques for cloning proteins (including human DEC-205) based on a given partial amino acid sequence of the protein, expressing cloned proteins and generating antibodies against the proteins. Based on these teachings, it was well within the skill of the art to have generated anti-DEC-205 antibodies and the full-length human DEC-205 protein, as argued at pages 9-11 of Applicant's Amendment and Response dated December 22, 2005.

In fact, as discussed at page 11 (lines 3-11) of Applicants' Amendment and Response dated December 22, 2005, and as evidenced by the Declaration by Dr. Michel Nussensweig and related publications submitted with Applicants' Amendment and Response dated January 4, 2005, the cloning techniques and techniques for generating antibodies described in the specification were ultimately successfully used to clone and isolate human DEC-205 and to produce antibodies against full-length human DEC-205.

This provides ***clear evidence*** that Applicants were in fact indeed ***in possession of the claimed invention*** based on the descriptive text provided within the four corners of Applicants' originally filed disclosure.

Finally, as discussed at page 11 (lines 15-17), of Applicants' Amendment and Response dated December 22, 2005, the Written Description requirement may be satisfied if the disclosed function of the claimed invention ***sufficiently correlates to a particular, known structure***. In the present case, the structure and function of human DEC-205 clearly correlates to that of mouse DEC-205, the characteristics of which (including full-length sequence) are described in detail in the present disclosure. Accordingly, the fact that Applicants provide an in-depth characterization of mouse DEC-205, including its full-length sequence, which correlates to human DEC-205, provides further basis for fully meeting the Written Description requirement, as argued at page 11, lines 26-29, of Applicant's Amendment and Response dated December 22, 2005.

In sum, the teachings set forth in Applicant's specification, in combination with the high level of skill and knowledge in the art at the time of the invention, and the proven predictability of the technologies involved in the invention, clearly satisfies the standard for Written Description according to the guidelines articulated by the CAFC in *Capon v. Eshhar* (CAFC 2005), and demonstrates possession of the claimed invention.

CONCLUSION

According to the foregoing, it is respectfully requested that the panel find:

(i) that all existing claims are in condition for allowance and that the application should pass to issue,

or in the alternative

(ii) that there is allowable subject matter in the claims and prosecution on the merits should be reopened with an appropriate office communication.

Respectfully submitted,

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